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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,852	04/14/2004	Richard P. Merry	59625US002	5513
32692 7590 10/02/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER NGUYEN, HUY TRAM	
			ART UNIT 1743	PAPER NUMBER
			NOTIFICATION DATE 10/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
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Office Action Summary

Application No.

10/823,852

Applicant(s)

MERRY, RICHARD P.

Examiner

Huy-Tram Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I, Claims 1-19 in the reply filed on August 16, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Response to Arguments

Applicant's arguments, see Page 6, Line 27-Page 7, Line 27, filed on August 16, 2007, with respect to the rejection(s) of claim(s) 1 and 10 under 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 USC 103 (a) over Langer et al. **(US Patent No. 6,458,418 B2). See below.**

Applicant's arguments, see Page 8, Lines 3-11, filed on August 16, 2007, with respect to the rejection(s) of claim(s) 3-4 and 12-13 under 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 USC 103 (a) over Langer et al. **(US Patent No. 6,458,418 B2). See below.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-10 and 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Langer et al. (US Patent No. 6,458,418 B2)**.

Regarding Claim 1, Langer et al. reference discloses a multilayer mat comprising:

a non-intumescent layer comprising inorganic fibers (**Column 5, Lines 32-33 and Column 10, Lines 2-3**);

a intumescent layer forming a first outer layer of the multilayer mat (**Column 5, Lines 33-34**), and

the multilayer mat comprises three or more layers (**Column 15, Lines 60-64**)

Even though Langer et al. does not specify that the non-intumescent layer is positioned between two intumescent layers, Langer et al. states "The layer adjacent the metal housing contains an intumescent material" (**Column 4, Lines 5-6**). Furthermore, Langer et al. states, "The present invention also contemplates intumescent sheets having three or more layers wherein at least one layer comprises an intumescent material and wherein adjacent layers are desirably comprised of different compositions. (**Column 15, Lines 60-64**). Thus, two layers of intumescent materials can be used with

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a non-intumescent layer. Since the layer adjacent to the metal housing contains an intumescent material, the non-intumescent layer will be positioned in between the two intumescent layers to form a multilayer mat of intumescent/ non-intumescent/ intumescent. It would have been obvious to one having ordinary skill in the art at the time the invention was made to come up with the a multilayer mat having a non-intumescent layer positioned between two intumescent layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding Claim 2, Langer et al. reference discloses the multilayer mat of claim 1, wherein the first intumescent layer and the second intumescent layer each comprise an intumescent material, selected from vermiculite, expandable graphite, or combinations thereof (**Column 7, Line 66-Column 8, Line 4**).

Regarding Claims 3-4, Langer et al. reference discloses the multilayer mat of claim 1, wherein the non-intumescent layer has a thickness that is at least 50 percent of a total thickness of the multilayer mat and the non-intumescent layer is thicker than the first intumescent layer and the non-intumescent layer is thicker than the second intumescent layer (**Column 6, Lines 32-34**).

Regarding Claim 5, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fiber comprises a ceramic fiber having a bulk shrinkage no greater than 10 percent (**Ceramic fibers as a non-intumescent material– Column 5**,

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Lines 18-20 and aluminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent – Column 8, Lines 57-59).

Regarding Claim 6, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers (**Column 10, Lines 17-25**).

Regarding Claim 7, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise glass fibers (**Column 10, Lines 17-25**) and both the first and second intumescent layers comprise vermiculite (**Column 7, Line 66-Column 8, Line 4**).

Regarding Claim 8, Langer et al. reference discloses the multilayer mat of claim 1, wherein the inorganic fibers comprise a ceramic fiber having a bulk shrinkage no greater than 10 percent (**aluminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Lines 57-59**) and both the first and second intumescent layers comprise vermiculite (Column 7, Line 66-Column 8, Line 4).

Regarding Claim 9, Langer et al. reference discloses the multilayer mat of claim 1, wherein two or more layers of the multilayer mat are bonded together with an adhesive, needle bonding, or stitching (**Column 3, Lines 24-27**).

Regarding Claim 10, Langer et al. reference discloses a pollution control device comprising:

a first metal housing (**11**);

a pollution control element inside the first metal housing (**20**);

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a multilayer mounting mat positioned between the first metal housing and the pollution control element (30), said multilayer mounting mat comprising:

a non-intumescent layer comprising inorganic fibers (**Column 5, Lines 32-33 and Column 10, Lines 2-3**);

a intumescent layer forming a first outer layer of the multilayer mat (**Column 5, Lines 33-34**), and

the multilayer mat comprises three or more layers (**Column 15, Lines 60-64**)

Even though Langer et al. does not specify that the non-intumescent layer is positioned between two intumescent layers, Langer et al. states "The layer adjacent the metal housing contains an intumescent material" (**Column 4, Lines 5-6**). Furthermore, Langer et al. states, "The present invention also contemplates intumescent sheets having three or more layers wherein at least one layer comprises an intumescent material and wherein adjacent layers are desirably comprised of different compositions. (**Column 15, Lines 60-64**). Thus, two layers of intumescent materials can be used with a non-intumescent layer. Since the layer adjacent to the metal housing contains an intumescent material, the non-intumescent layer will be positioned in between the two intumescent layers to form a multilayer mat of intumescent/ non-intumescent/ intumescent. It would have been obvious to one having ordinary skill in the art at the time the invention was made to come up with the a multilayer mat having a non-intumescent layer positioned between two intumescent layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis

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of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding Claims 12 and 13, Langer et al. reference discloses the pollution control device of claim 10, wherein the non-intumescent layer has a thickness that is at least 50 percent of the total thickness of the multilayer mat and the non-intumescent layer is thicker than the first intumescent layer and the non-intumescent layer is thicker than the second intumescent layer (**Column 6, Lines 32-34**).

Regarding Claim 14, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent (**aluminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Lines 57-59**).

Regarding Claim 15, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers (**Column 10, Lines 17-25**).

Regarding Claim 16, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise glass fibers and both the first and second intumescent layers comprise vermiculite (**Column 7, Line 66-Column 8, Line 4**).

Regarding Claim 17, Langer et al. reference discloses the pollution control device of claim 10, wherein the inorganic fibers comprise ceramic fibers having a bulk shrinkage less than 10 percent (**aluminoborosilicate fibers as ceramic fibers with bulk shrinkage no greater than 10 percent - Column 8, Lines 57-59**) and both the

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first and second intumescent layers comprise vermiculite (**Column 7, Line 66-Column 8, Line 4**).

Regarding Claim 18, Langer et al. reference discloses the pollution control device of claim 10, wherein the pollution control element is a diesel particulate filter (**Figure 2**).

Regarding Claim 19, Langer et al. reference discloses the pollution control device of claim 10, wherein the mounting mat has sufficient holding pressure at operating temperatures both higher than and lower than a temperature suitable for expanding the first and second intumescent layers (**Column 6, Lines 32-34**).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Langer et al. (US Patent No. 6,458,418 B2)** in view of **Papadopoulos (US Patent No. 4,362,016)**.

Regarding Claim 11, Langer et al. reference discloses the pollution control device of claim 10 and its use on motor vehicles except which part of the motor vehicles the pollution device are employed on. It would have been obvious to one having ordinary skill in the art at the time the invention was made to install the pollution device on a muffler in an automobile exhaust line as in Papadopoulos reference for reducing pollution of the atmosphere. (**Papadopoulos-Figure 1, Abstract and Column 2, Line 54-57**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy-Tram Nguyen whose telephone number is 571-270-3167. The examiner can normally be reached on M - F : 7:30 AM - 5:00 PM (Alternated Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HTN
9/11/07


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER